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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,267	05/02/2001	Hiroshi Kage	401175	6116
23548	7590	07/02/2004	EXAMINER	
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ART UNIT		PAPER NUMBER		
2625				
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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/846,267	KAGE, HIROSHI
	Examiner Ali Bayat	Art Unit 2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 5-8,13-15,20-23,28-30,35-38,43-45,47,49 and 50 is/are allowed.
- 6) Claim(s) 1,9-11,16,24-26,31,39-41,46 and 48 is/are rejected.
- 7) Claim(s) 2-4,12,17-19,27,32-34 and 42 is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 May 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2 and 3.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim1, 9-10, 31, 39-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Steffens et al. (U.S. 6,301,370).

In regard to claim 1 Steffens provides for an image input section which picks up two-dimensional images containing a person's face, using an image sensor (Fig.1 element 28, col.3 lines 47-53); a head area extracting section which extracts a head area from a differential image of a plurality of the two-dimensional images picked up by the image input section (Fig.1 element 14 col.3 lines 54-60); a feature detection section which detects position of characteristic features of the face within the head area extracted ( Fig.1 elements 18 and 19 col.4 lines 1-5); a face outline determining section which determines a border between a face outline and a background within the head area ( col.19 lines 15-20, note face boundaries which corresponds to face outline); and image processing section which generates a person's portrait ( Fig.1 element 22 col.4 lines 5-7) in which the characteristic features of the face are emphasized based upon the two-dimensional image using data acquired by the head area extracting section, the

feature detection section, and the face outline determining section ( col.3 lines 47-col.4 line 7).

With regard to claim 31 see claim 1 above. It recites similar limitations as claim 1. hence it is similarly analyzed and rejected.

In regard to claims 9 and 39 see claim 1 above. They recite similar limitations as claim 1. Except for determining a border between a face outline and a background within the head area by specifying a skin color area of the two-dimensional image (col.5 lines 8-15). Hence they are similarly analyzed and rejected.

As to claims 10 and 40 Steffens provides for the person's generation device, wherein the face outline determining section determines outline of a jaw (Fig.1 element 18 col.4 lines 1-5, also see Fig.14).

*Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steffens et al. (6,301,370) in view of Guenter et al.(U.S. 6,072,496).

In regard to claims 11 and 41 steffens provides for determining the skin color area in the face outline determining section (col.5 lines 815). Stiffens does not expressly provide by converting an RGB value to an HSV value. Guenter provides for converting an RGB value to an HSV value (col.17 lines 40-45) the prior art of Steffens and Guenter

are combinable because they are from same field of endeavor (vision-based object detection and tracking). At time the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Guenter (converting an RGB value to an HSV value) with system and method of Steffens, because the invention of Guenter provides for because the invention of guenter creates realistic and efficient models of the complex structure, color, and shading of facial expressions and other complex real world objects col. Lines 13-16.

3. Claims 16,46,24-25 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steffens et al. (6,301,370) in view of Bullister (U.S. 6,211,903).

In regard to claims 16 and 46 Steffens provides for an image input section which picks up two-dimensional images containing a person's face, using an image sensor (Fig.1 element 28, col.3 lines 47-53); a head area extracting section which extracts a head area from a differential image of a plurality of the two-dimensional images picked up by the image input section (Fig.1 element 14 col.3 lines 54-60); a feature detection section which detects position of characteristic features of the face within the head area extracted ( Fig.1 elements 18 and 19 col.4 lines 1-5); a face outline determining section which determines a border between a face outline and a background within the head area ( col.19 lines 15-20, note face boundaries which corresponds to face outline); and image processing section which generates a person's portrait ( Fig.1 element 22 col.4 lines 5-7) in which the characteristic features of the face are emphasized based upon the two-dimensional image using data acquired by the head area extracting section, the feature detection section, and the face outline determining section ( col.3 lines 47-col.4

line 7). Steffen does not provide for transmitting and receiving through a communication lines. Bullister provides for transmitting and receiving through a communication lines (Fig.3 col.10 lines 29-30). The prior art of Steffens and Bullister are combinable because they are from same field of endeavor ( vision-based object detection and tracking). At time the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Bullister with system and method of Steffens, because the invention of Bullister provides for a video telephone which can make effective use of available bandwidth while remaining simple and compact col.2 lines 20-23.

In regard to claims 24 and 48 see claims 16 and 46 above. They recite similar limitations as claim 1. Except for determining a border between a face outline and a background within the head area by specifying a skin color area of the two-dimensional image (col.5 lines 8-15). Hence they are similarly analyzed and rejected.

As to claim 25, Steffens provides for the person's generation device, wherein the face outline determining section determines outline of a jaw (Fig.1 element 18 col.4 lines 1-5, also see Fig.14).

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steffens et al. (6,301,370) in view of Bullister (U.S. 6,211,903) further in view of Guenter et al. (U.S. 6,072,496).

In regard to claim 26 Steffens provides for determining the skin color area in the face outline determining section (col.5 lines 815). Steffens does not expressly provide by converting an RGB value to an HSV value. Guenter provides for converting an RGB

value to an HSV value (col.17 lines 40-45) the prior art of Steffens and Guenter are combinable because they are from same field of endeavor ( vision-based object detection and tracking). At time the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Guenter (converting an RGB value to an HSV value) with system and method of Steffens, because the invention of Guenter provides for because the invention of guenter creates realistic and efficient models of the complex structure, color, and shading of facial expressions and other complex real world objects col. Lines 13-16.

*Allowable Subject Matter*

5. Claims 5-8,13-15,20-23,28-30,35-38,43-45,47 and 49-50 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of Steffens provides for an image input section which picks up two-dimensional images containing a person's face, using an image sensor (Fig.1 element 28, col.3 lines 47-53); a head area extracting section which extracts a head area from a differential image of a plurality of the two-dimensional images picked up by the image input section (Fig.1 element 14 col.3 lines 54-60); a feature detection section which detects position of characteristic features of the face within the head area extracted ( Fig.1 elements 18 and 19 col.4 lines 1-5); a face outline determining section which determines a border between a face outline and a background within the head area ( col.19 lines 15-20, note face boundaries which corresponds to face outline); and image processing section which generates a person's portrait ( Fig.1 element 22 col.4 lines 5-7). **However Steffens failed to teach or suggest for a feature detection section which detects**

**position of characteristic features of the face by dividing the head area extracted into face areas for respective face parts and finding projection data of binarized images for the respective face parts areas (in independent claims 5, 20,35 and 47), further for an image processing section which generates a person's portrait in which the characteristic features of the face are emphasized by changing the two-dimensional image with respect to each of face parts ( in independent claims 13,28,43 and 49-50).**

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### Objected Claims

6. Claims 2-4, 12,17-19, 27, 32-34, and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### Other Cited References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2004/0105672 A1 to Misumi et al. is cited for face image photographic apparatus and face image photographic method.

US 2004/0047494 A1 to Lee et al. is cited for method of detecting a specific object in an image signal.

US patent 6,529,630 to Kinjo is cited for method and device for extracting principal image subjects.

US patent 6,437,808 to Brill, III et al. is cited for apparatus and method for transmitting graphical representations.

#### Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Bayat whose telephone number is 703-306-5915.

The examiner can normally be reached on M-Thur 9:00-7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-3085246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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6/27/04



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